

# AT831R

Cardioid Condenser Lavalier Microphone

 audio-technica

broadcast & production microphones



## Features

- **Clip-on lavalier mic provides crisp, full-sounding voice pickup**
- **Also excels as an instrument mic, especially for pickup of acoustic guitar with included AT8444 instrument adapter**
- **Excellent gain before feedback and suppression of background noise**
- **Cardioid polar pattern reduces pickup of sounds from the sides and rear, improving isolation of desired sound source**
- **Rugged design and construction for reliable performance**
- **UniSteep® filter provides a steep low-frequency attenuation to improve sound pickup without affecting voice quality**
- **Also available in wireless models (without power module) terminated for use with all Audio-Technica UniPak® wireless systems and many other manufacturers' wireless systems**

## AT831R Description

The AT831R is a miniature clip-on/lavalier condenser microphone with a cardioid polar pattern. It is designed for quality sound reinforcement, professional recording, television and other demanding sound pickup applications.

The microphone is intended to be worn on the clothing or used as an instrument mic for excellent yet unobtrusive sound pickup. The wide-range capability of the microphone ensures clean, accurate reproduction with high intelligibility for speakers and presenters as well as for instrument pickup. Its small size makes it ideal for use in applications where minimum visibility is required.

The microphone requires 11V to 52V phantom power for operation.

The microphone's cardioid polar pattern provides a 120° angle of acceptance.

The microphone includes a 4 m (13.1') permanently attached miniature cable. Its free end connects to the provided AT8538 power module via a TA3F-type connector. The output of the power module is a 3-pin XLRM-type connector.

A recessed switch in the power module permits choice of flat response or low-frequency roll-off (via integral 80 Hz high-pass UniSteep® filter) to help control undesired ambient noise.

The microphone comes equipped with a power module, a clothing clip, an instrument adapter, a windscreen and a protective carrying case.

## Wireless Models Description

The microphone is also available in a variety of wireless models, including the AT831cW. The AT831cW includes a 1.4 m (55") permanently attached miniature cable terminated with a locking 4-pin connector for use with Audio-Technica UniPak® body-pack transmitters. Models are also available in a variety of terminations for use with many other manufacturers' wireless systems. No power module is included (or required) with the wireless models. The wireless models' dimensions and polar pattern are otherwise identical to those of the AT831R.

The AT831cW is also available unterminated as the AT831c.

The AT831R is also available with the AT8531 power module offering battery/phantom operation as the AT831b.

## Cable Terminations

AT831cW	Terminated with locking 4-pin connector for use with Audio-Technica UniPak® body-pack transmitters
AT831cT	Terminated for Telex, HME and Swintec wireless systems using TA4F-type connector
AT831cT5	Terminated for Lectrosonics® wireless systems using TA5F-type connector
AT831HRS-6	Terminated for Samson® wireless systems
AT831c	Unterminated

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## Operation and Maintenance

The AT831R requires 11V to 52V phantom power for operation.

Output is low impedance (Lo-Z) balanced. The signal appears across Pins 2 and 3; Pin 1 is ground (shield). Output phase is "Pin 2 hot"—positive acoustic pressure produces positive voltage at Pin 2.

To avoid phase cancellation and poor sound, all mic cables must be wired consistently: Pin 1-to-Pin 1, etc.

An integral 80 Hz high-pass UniSteep® filter provides easy switching from a flat frequency response to a low-end roll-off. The roll-off position reduces the microphone's sensitivity to popping in close vocal use. It also reduces the pickup of low-frequency ambient noise (such as traffic, air-handling systems, etc.), room reverberation and mechanically coupled vibrations. To engage the UniSteep® filter, use the end tip of a paperclip or other small pointed instrument to slide the switch toward the "bent" line.

For use as a lavalier, attach the microphone about six inches below the chin. Anticipate movements that may cause the microphone to rub against or be covered by clothing, and position the microphone to avoid it.

Avoid leaving the microphone in the open sun or in areas where temperatures exceed 110° F (43° C) for extended periods. Extremely high humidity should also be avoided.

## Architect's and Engineer's Specifications

The microphone shall be a fixed charge condenser. It shall have a cardioid polar pattern with a uniform 120° angle of acceptance and a frequency response of 40 Hz to 16,000 Hz. The microphone shall operate from an external 11V to 52V DC phantom power source. It shall be capable of handling sound input levels up to 141 dB with a dynamic range of 112 dB. Nominal open-circuit output voltage shall be 7.9 mV at 1V, 1 Pascal.

Output shall be low impedance balanced (250 ohms).

The microphone shall have a 4 m (13.1') permanently attached miniature cable terminating in a TA3F-type output connector. The output connector shall connect to a TB3M-type jack on the included power module. The power module shall contain a recessed switch to permit choice of flat response or 80 Hz low-frequency roll-off. The output of the power module shall be a 3-pin XLRM-type connector.

The microphone shall be 25.0 mm (0.98") long and have a diameter of 10.2 mm (0.40"). Weight shall be 2.8 grams (0.1 oz). The microphone shall include a power module, a clothing clip, an instrument adapter, a windscreen and a protective carrying case. Finish shall be low-reflectance black.

The microphone shall also be available with a 1.4 m (55") permanently attached miniature cable terminated for use with Audio-Technica UniPak® body-pack transmitters and a variety of other manufacturers' wireless systems. No power module shall be required or included with the wireless models. The wireless models' dimensions and polar pattern shall be identical to those of the wired model. The microphone shall also be available unterminated.

The Audio-Technica AT831R is specified.

The Audio-Technica [AT831cW]; [AT831cT]; [AT831cT5]; [AT831HRS-6] (wireless version) is specified.

The Audio-Technica AT831c (unterminated) is specified.

## Specifications

<b>Element</b>	Fixed-charge back plate, permanently polarized condenser
<b>Polar pattern</b>	Cardioid
<b>Frequency response</b>	40-16,000 Hz
<b>Low frequency roll-off</b>	80 Hz, 18 dB/octave
<b>Open circuit sensitivity</b>	-42 dB (7.9 mV) re 1V at 1 Pa
<b>Impedance</b>	250 ohms
<b>Maximum input sound level</b>	141 dB SPL, 1 kHz at 1% T.H.D.
<b>Dynamic range (typical)</b>	112 dB, 1 kHz at Max SPL
<b>Signal-to-noise ratio<sup>1</sup></b>	65 dB, 1 kHz at 1 Pa
<b>Phantom power requirements</b>	11-52V DC, 2 mA typical
<b>Switch</b>	Flat, roll-off
<b>Weight</b>	Microphone: 2.8 g (0.1 oz) Power module: 81 g (2.9 oz)
<b>Dimensions</b>	Microphone: 25.0 mm (0.98") long, 10.2 mm (0.40") diameter Power module: 92.9 mm (3.66") long, 18.9 mm (0.74") diameter
<b>Output connector</b>	Power module: Integral 3-pin XLRM-type
<b>Cable</b>	4.0 m (13.1') long (permanently attached to microphone), 3.2 mm (0.13") diameter, 2-conductor, shielded cable with TA3F-type connector
<b>Audio-Technica case style</b>	M1
<b>Accessories furnished</b>	AT8538 power module; AT8419 clothing clip; AT8444 instrument adapter; AT8116 windscreen; protective carrying case

In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

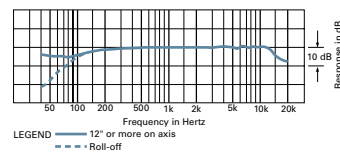
1 Pascal = 10 dynes/cm<sup>2</sup> = 10 microbars = 94 dB SPL

<sup>1</sup> Typical, A-weighted, using Audio Precision System One.

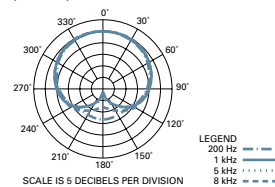
Specifications are subject to change without notice.



frequency response: 40–16,000 Hz



polar pattern



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